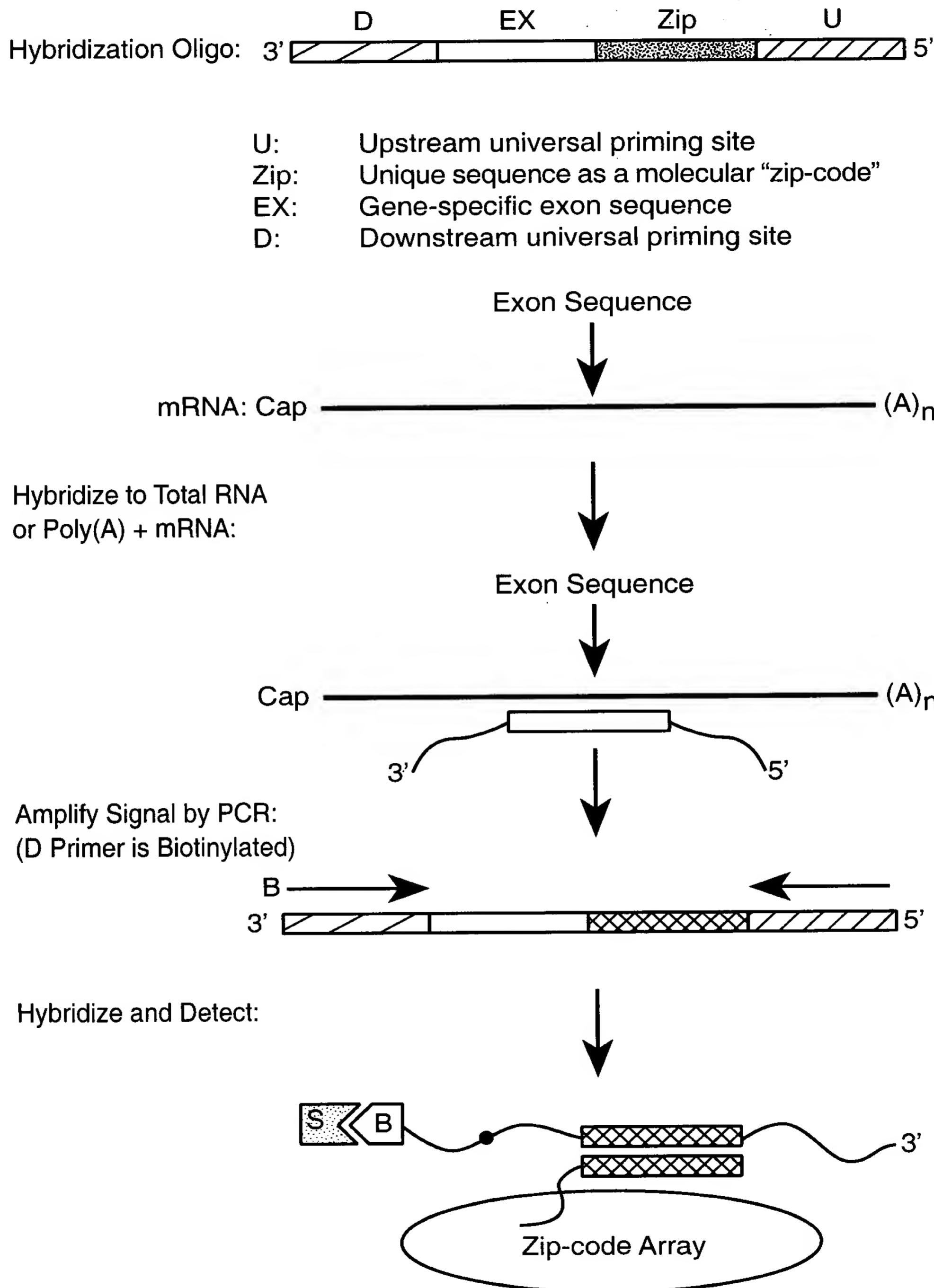


### A Flow Chart for Array-based Detection of Gene Expression

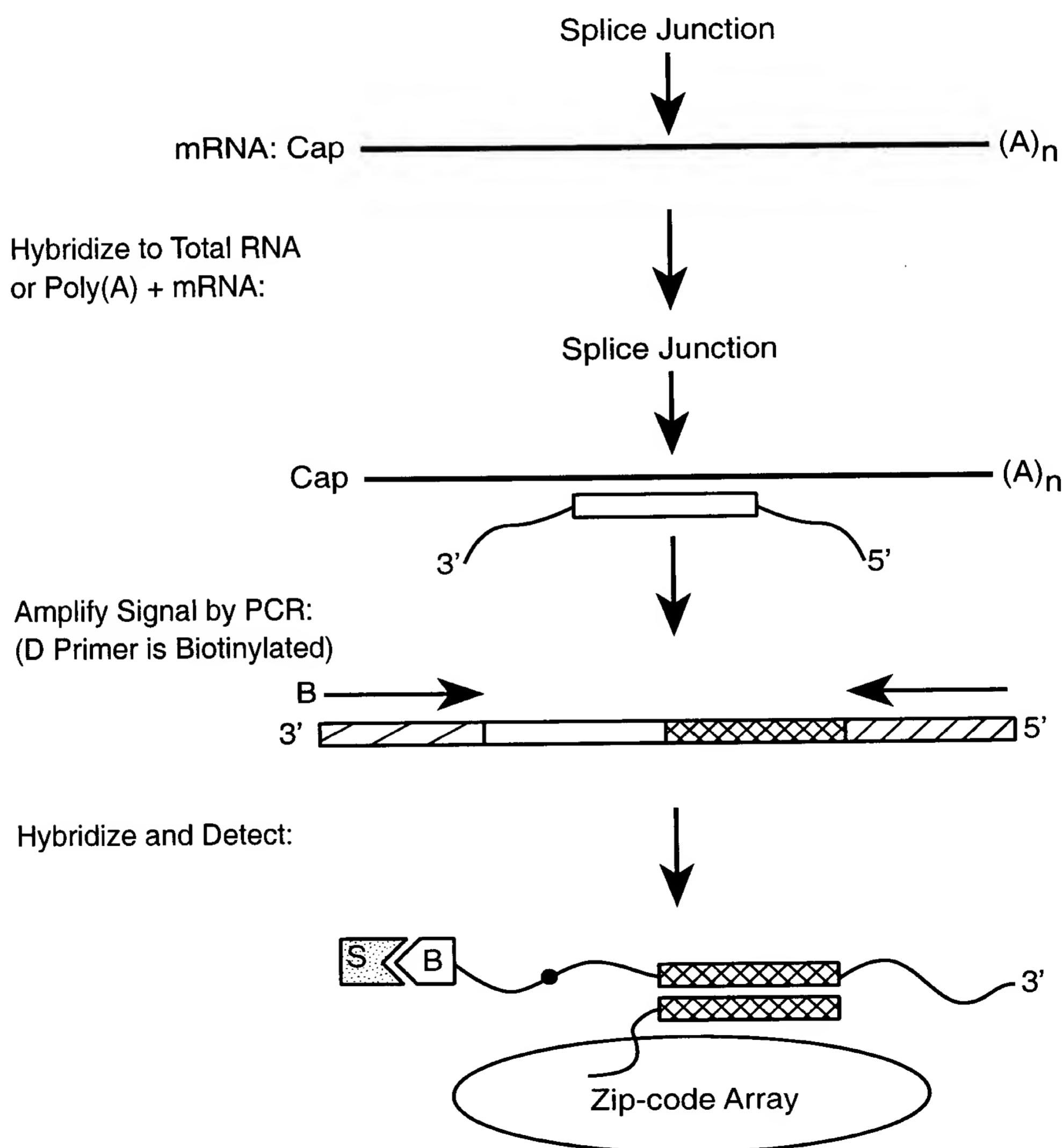


**FIG.\_1**

**A Flow Chart for Array-based Detection of RNA Alternative Splicing**

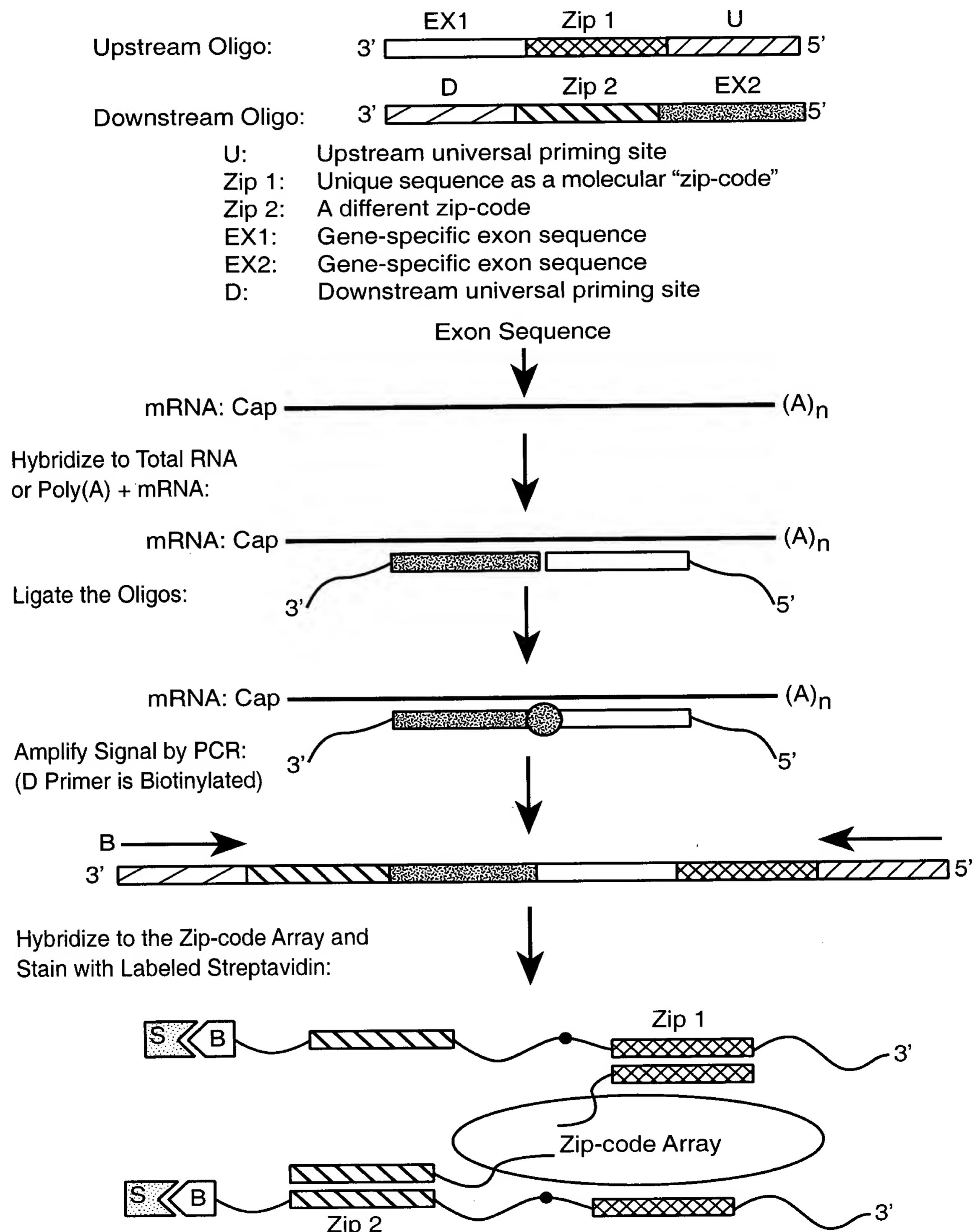
Hybridization Oligo: 3'  5'

U: Upstream universal priming site  
 Zip: Unique sequence as a molecular "zip-code"  
 SJ: Gene-specific splice junction  
 D: Downstream universal priming site

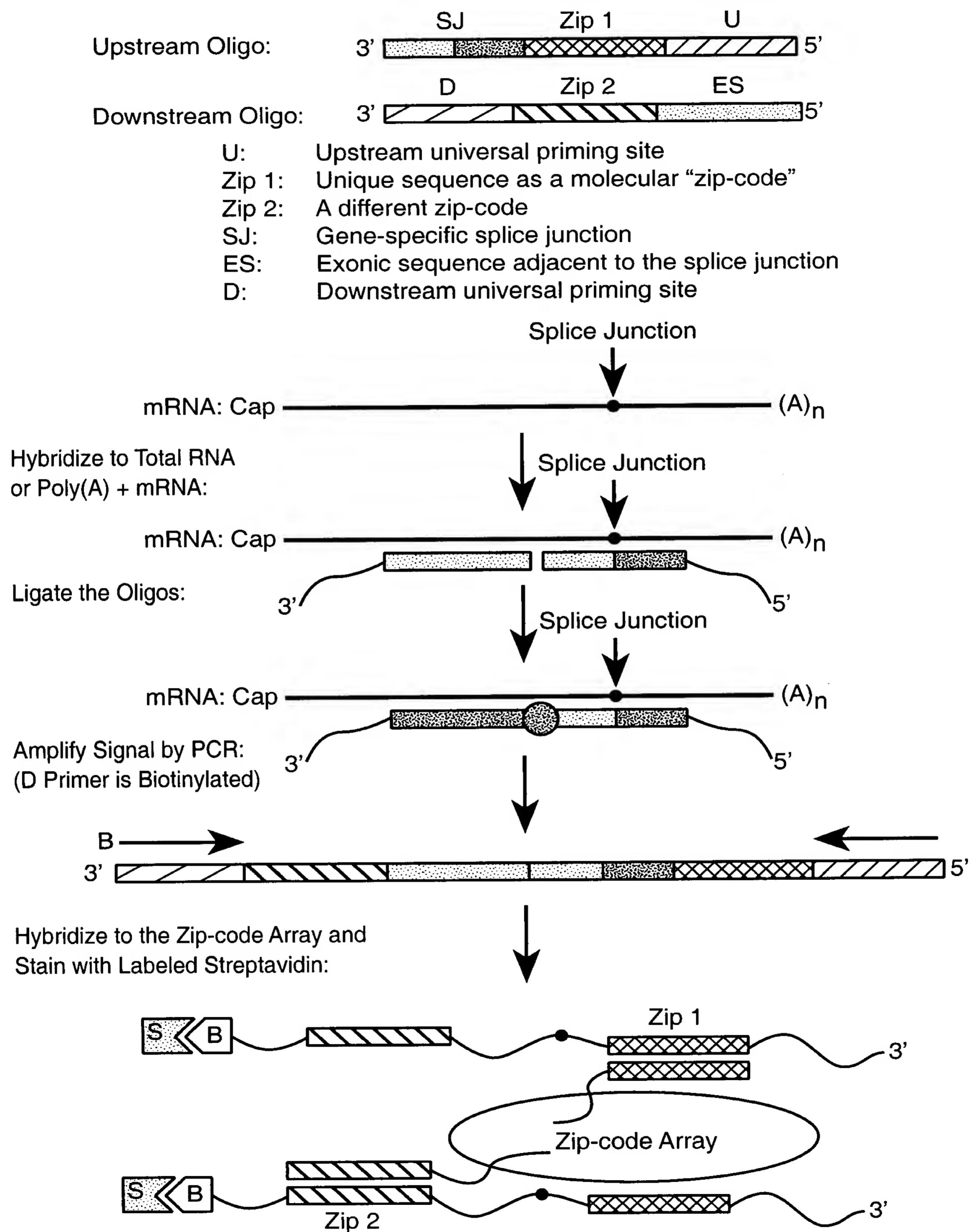


**FIG.\_2**

### Genome-wide Gene Expression Profiling Using Oligo-ligation Strategy



## Genome-wide RNA Alternative Splicing Monitoring Using Oligo-Ligation Strategy



**FIG.-4**

## Direct Genotyping Using a Whole-genome Oligo-ligation Strategy

Upstream Oligo: 3'  5'

Downstream Oligo: 3' D Zip 2 SNP\_B 5'

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U: Upstream universal priming site

## Zip 1: Unique sequence as a molecular “zip-code”

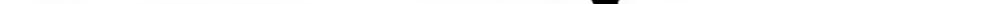
Zip 2: A different zip-code

SNP\_A: SNP-specific sequence

**SNP\_B:** SNP-specific sequence

D: Downstream universal priming site

## Polymorphic Site

Genomic DNA: 

### Hybridize to Genomic DNA:

### Genomic DNA:

### Ligate the Oligos:

## Genomic DNA:

## Amplify Signal by PCR: (D Primer is Biotinylated)

B →

## Hybridize to the Zip-code Array and Stain with Labeled Streptavidin:

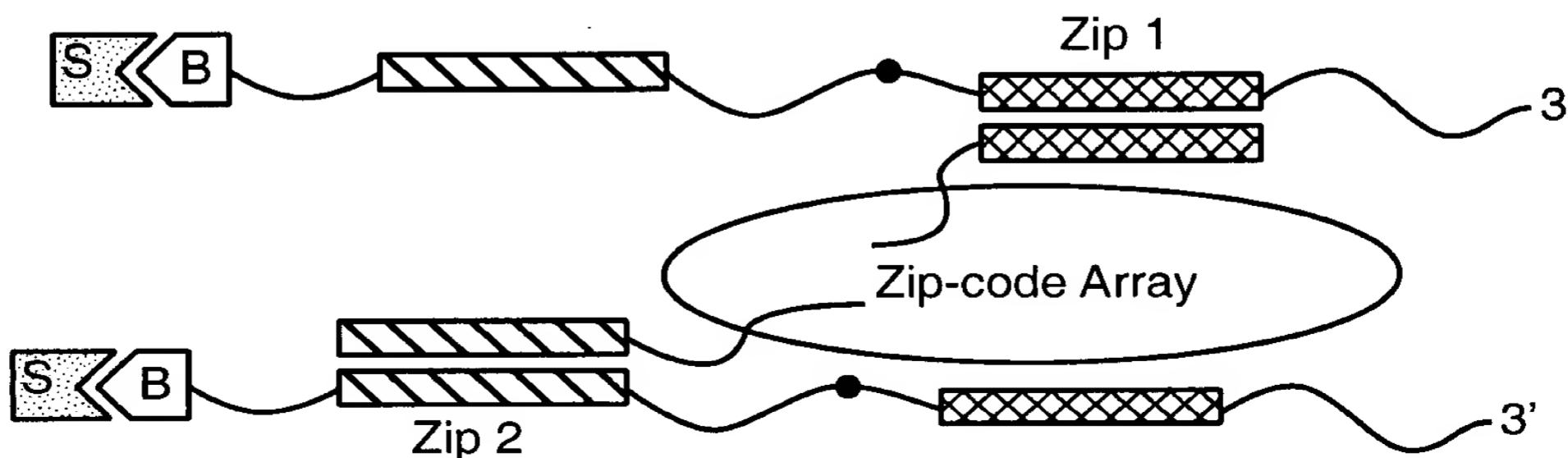
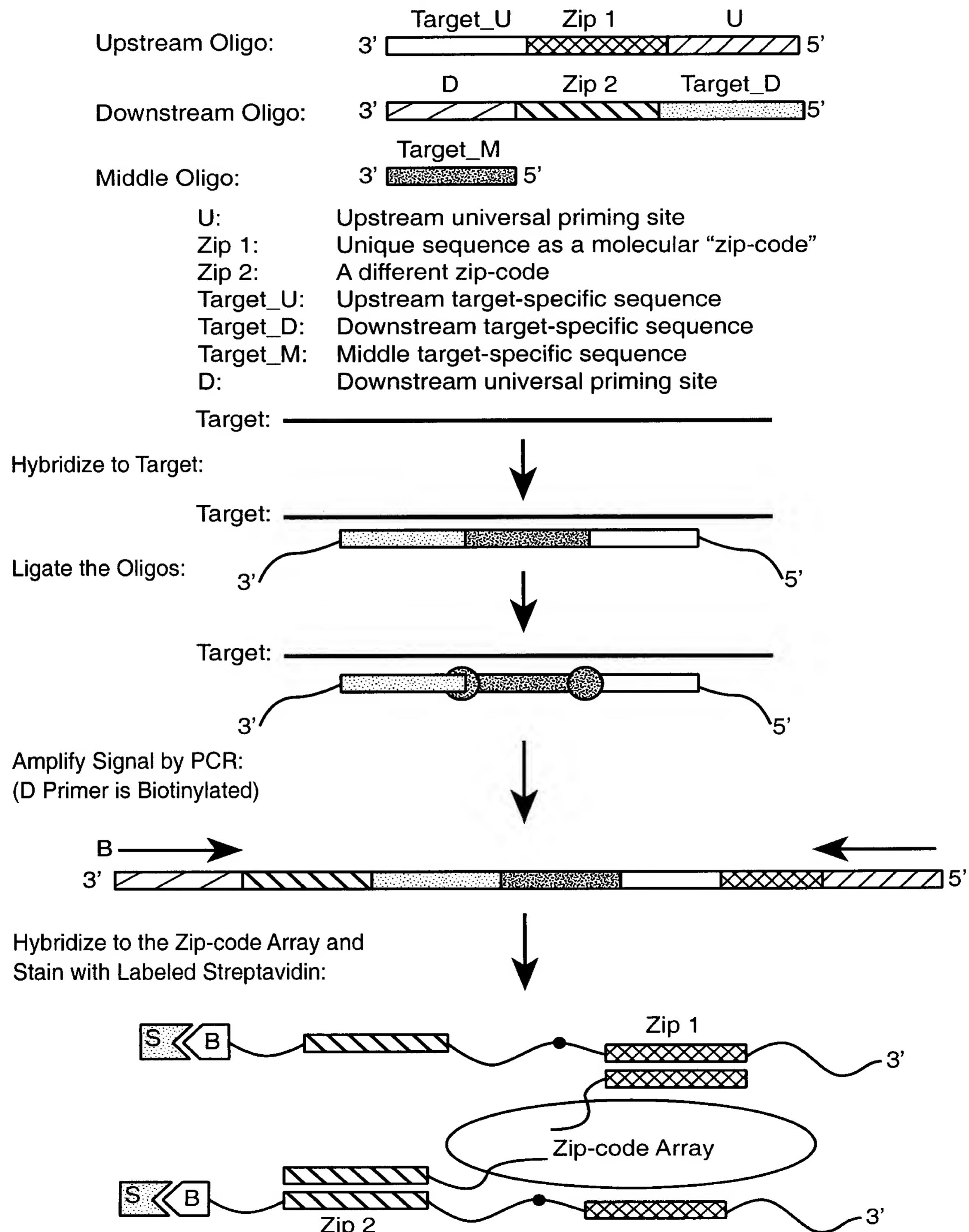


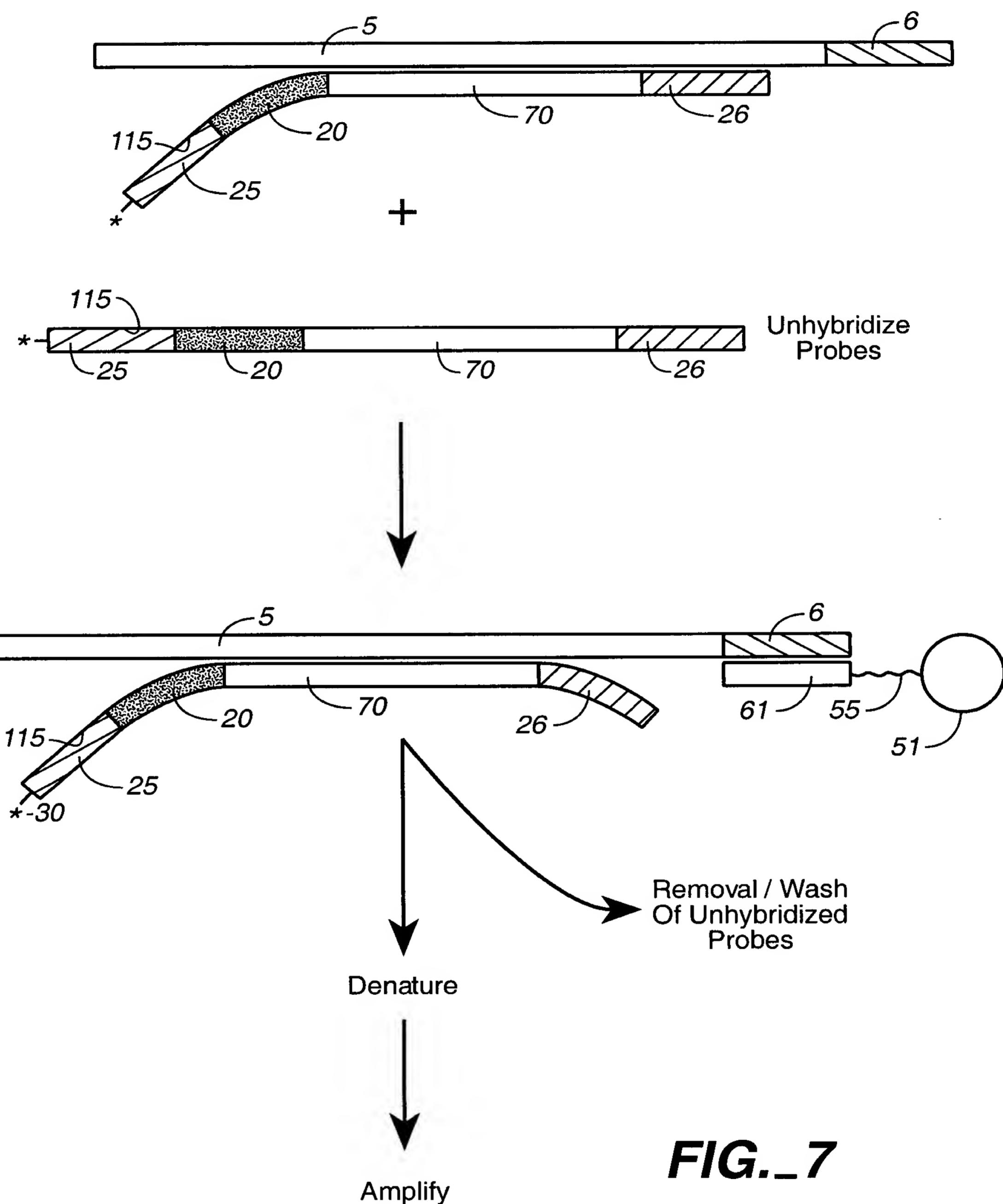
FIG.-5

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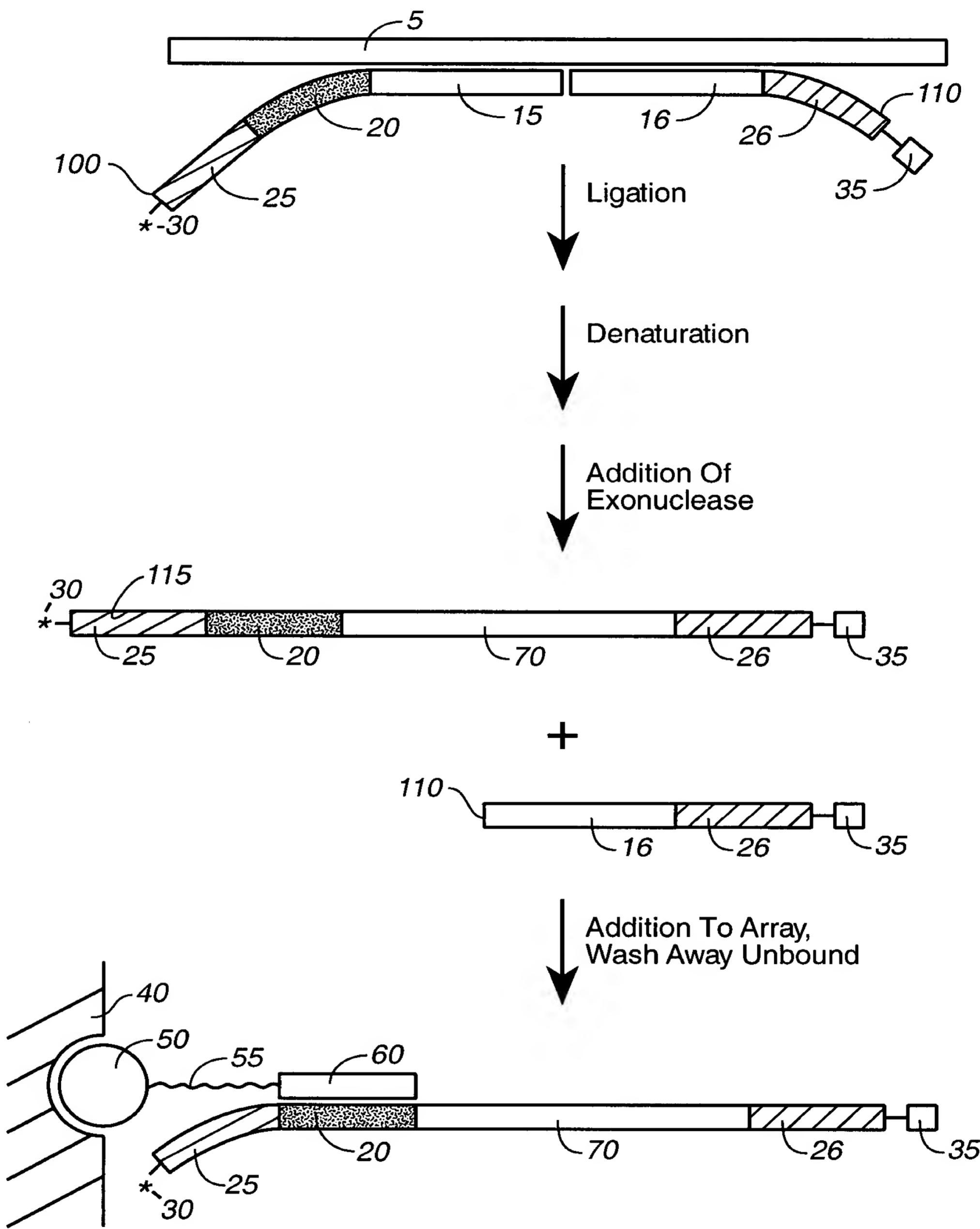
### Whole-genome Oligo-ligation Strategy



**FIG.\_6**

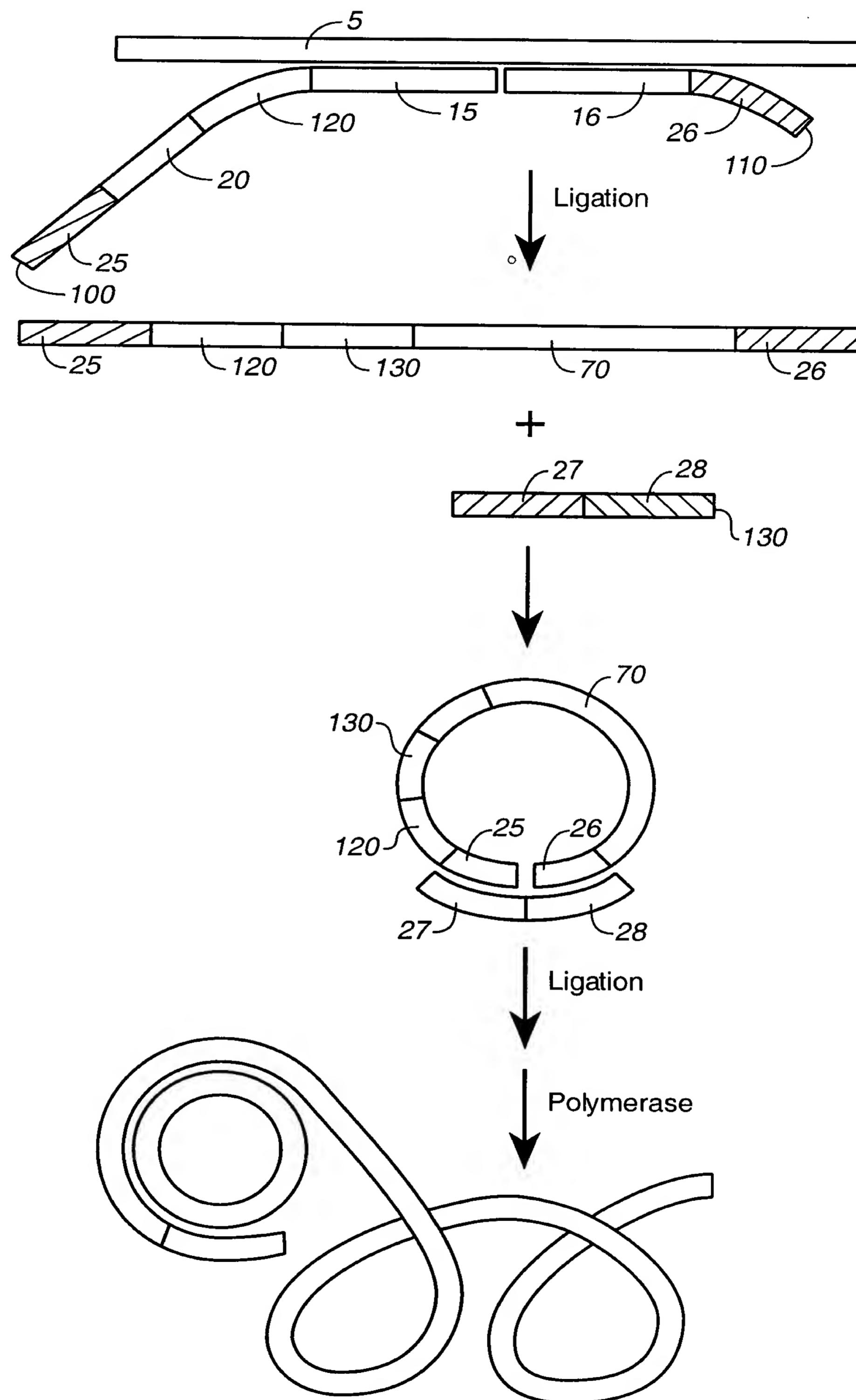


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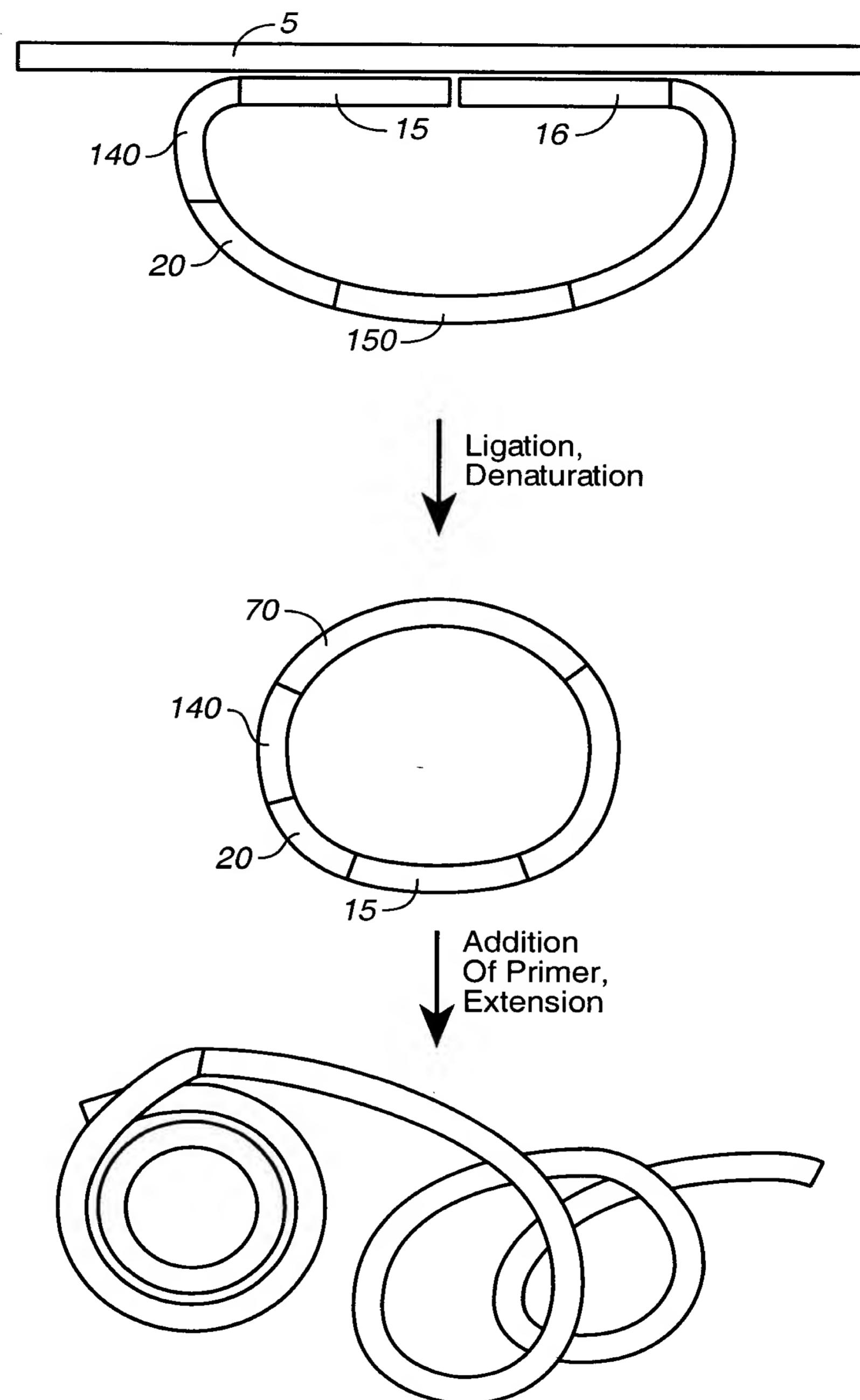
**FIG.\_8**

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**FIG.\_9**

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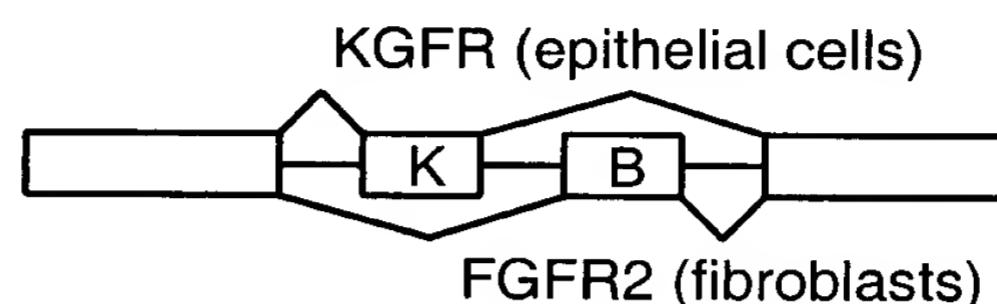


**FIG.\_10**

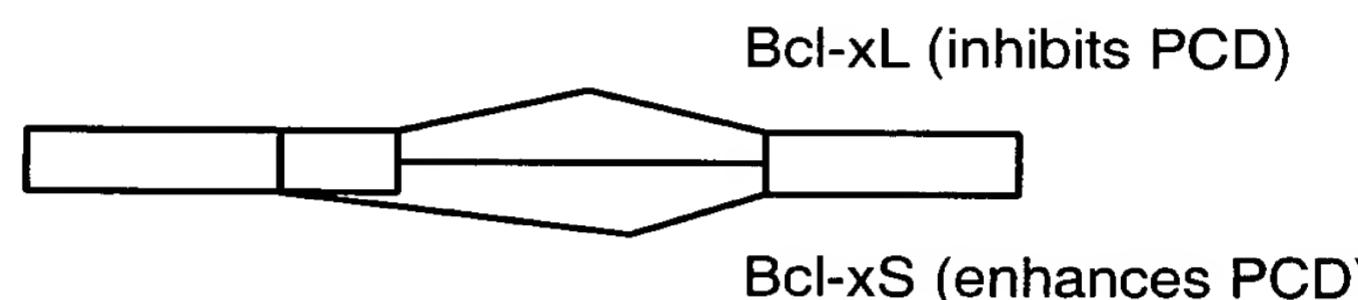
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### Alternative Splicing Targets Selected for Microarray Analysis

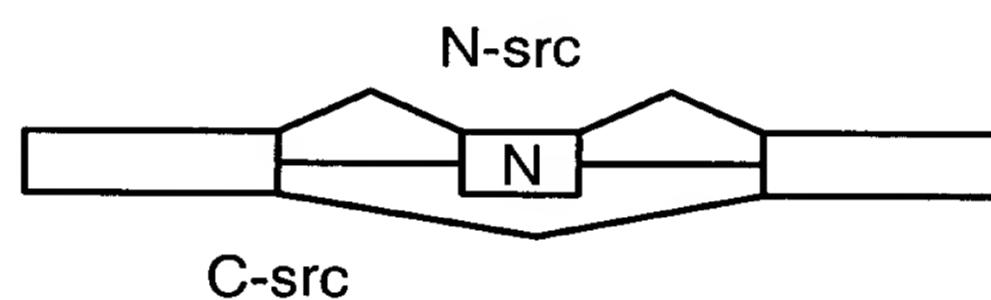
1. GAPDH (constitutive splicing control, signal normalization).
2. FGFR2 / KGF (mutually exclusive exons, internal cell type control):



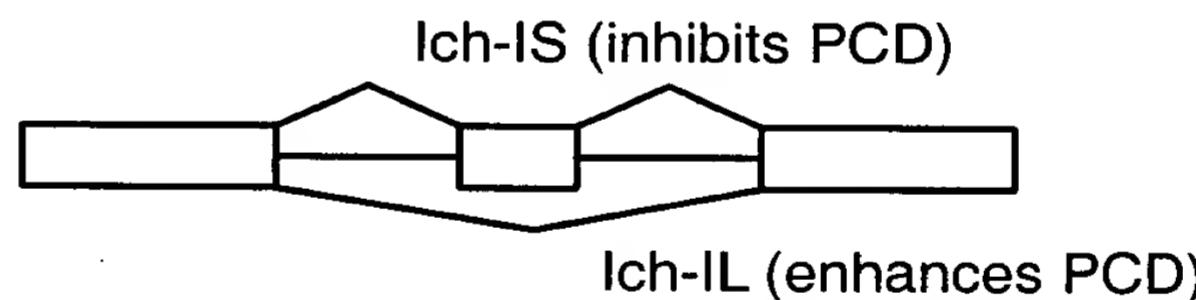
3. Bcl-x (alternative 5' ss):



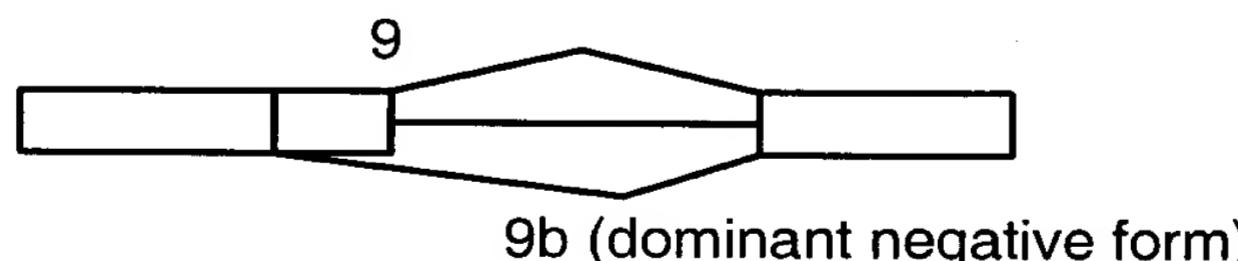
4. c-src (exon inclusion / exclusion):



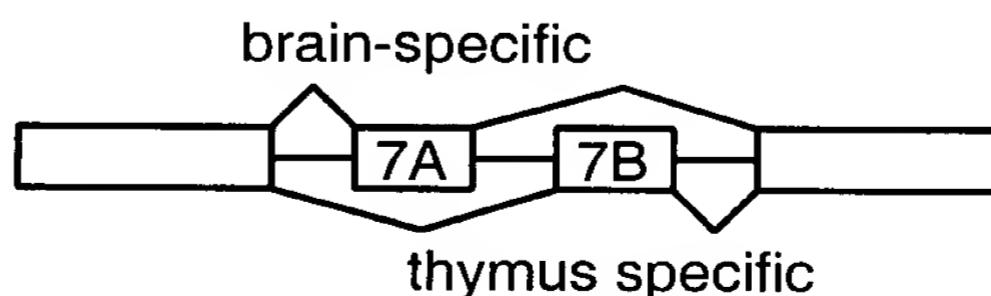
5. CASP2 (exon inclusion / exclusion):



6. CASP9 (alternative 5' ss):



7. Fyn (src family tyrosine kinase, mutually exclusive exons);



8. NOS1 (alternative promoters / alternative 5' ss):



**FIG.\_ 11**